



Metrics: Journal metrics, article metrics, author metrics, altmetrics.

Facilitated by: Lise Brin, Rita Campbell, Russell Wyeth

Wednesday, October 16, 2013
12:15 pm -1:15 pm

Agenda

- Metrics (journal, article, author, altmetrics)
- Metrics in the social sciences and humanities
- Increasing – or “*owning*” your online presence (an example)
- Discussion

Metrics

Measurement of research impact of scholarly publications

All have limitations

Understand what is being measured

Many were developed for STM

Disciplines have different publishing patterns

Are all authors included in stats?

Gaming?



**Journal
level**

**Author
level**

**Article
level**

Altmetrics

Metrics Landscape

“increasingly crucial role of impact analysis in grant evaluation, hiring, and tenure decisions”

Kaur, J., Radicchi, F., & Menczer, F. (January 01, 2013). Universality of scholarly impact metrics. *Journal of Informetrics*.



- eliminate dependence on journal-based metrics in funding, appointment and promotion
- assess the research on its own merits not journal merits
- explore new indicators of significance and impact

May 16, 2013

<http://am.ascb.org/dora/>

Signatures to date:
9,492 individuals;
407 organizations

American Society for Cell Biology; American Association for the Advancement of Science, the Wellcome Trust, the Association for Psychological Science, the European Sociology Association, the Linguistic Society of America, WRDSB

Science, Journal of Cell Biology (JCB), Genetics, eLife, Journal of Cell Science, Lipids, Genes, Journal of the Electrochemical Society, Development.

Journal Metrics

Impact Factor

Average number of times a journal is cited over a 2 year period

$\frac{\text{\# articles cited in one year}}{\text{\# articles published over prev. 2 year period}}$

Eigenfactor

Number of times articles published in a journal over 5 years are cited in a year. Citations to the same journal are removed. Quality of the citing journal is a factor as is difference in discipline publishing.

h5-index

The largest number h such that at least h articles in that publication were cited at least h times. An journal with h5-index of 8 has, over 5 years, at least 8 articles that were cited 8 times.

SJR – SCImago Journal Rank

Number of citations received by number of articles, weighted depending on the prestige and subject area of the journal.

SNIP- Source-Normalized Impact per Paper

Weighs citations based on the total number of citations in a subject field.



Journal Metrics



Impact Factor [over a 2 year period]

5 year impact factor [over a 5 year period]

articles cited in one year/ #
articles published over prev. 5
year period

Immediacy index

articles cited in one year/ #
articles published that year

Cited half-life

Median age of articles cited

Aggregate Impact Factor

The impact factor for a subject



Open Access

Eigenfactor

Article Influences Score: average
influence of each article

Uses Journal Citation Reports data

Adjusts for discipline differences

Quality of the citing journal is a factor

Journal size can influence ranking

Journal Metrics

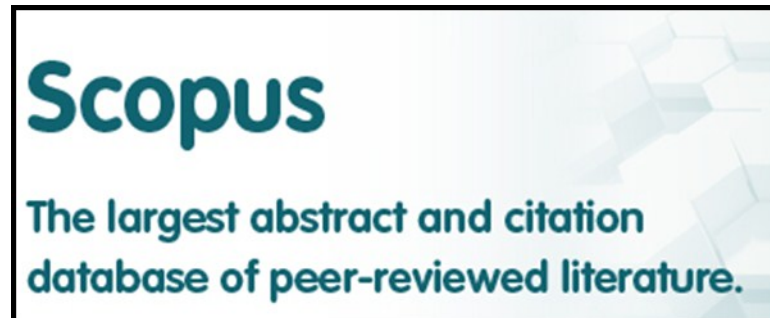


SJR

Uses Scopus database data

Open Access

SJR uses a version of Google Page rank



SNIP

SJR

Elsevier (arms length)

Journal Analyzer



h5-index

Open Access

Metrics for journals with > 100 articles in past 5 years

Crawls websites

Inconsistent metadata an issue



Open Access

Depends on publisher participation

Uses “**field rating**” similar to h-rating – for a discipline

Article/Author Level Metrics

Scholarly visibility & social visibility

Citations

Number of times cited in the literature

Usage

Number of times viewed on a website (publishers)

Number of times downloaded

How often the supplemental data has been accessed

Captures

How often it has been bookmarked/shared
(CiteULike/Mendeley)

Mentions

Number of times blogged about

How many news stories

Mentions in Wikipedia etc.

Comments on publishers website & elsewhere

Social Media

Facebook shares/likes

LinkedIn shares

Tweets

Altmetrics



Author Metrics

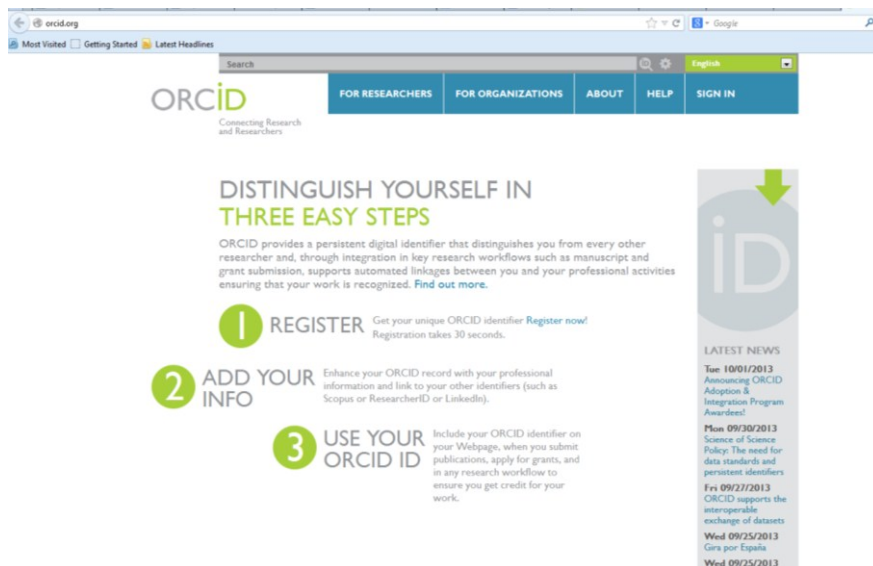
H-index (2005)

A scientist has index h if h of his/her N_p papers have at least h citations each, and the other $(N_p - h)$ papers have no more than h citations each.

Proper identification of the author is important.

ORCID – Open Researcher & Contributor <http://orcid.org/>
registry of unique researchers – method of linking research across platforms

Platform specific IDs : ResearcherID (WoS)



ISNI - International Standard Name Identifier <http://www.isni.org/>

VIAF - Virtual International Authority File <http://viaf.org/>

Article/Author Level Metrics

WEB OF KNOWLEDGESM

DISCOVERY STARTS HERE

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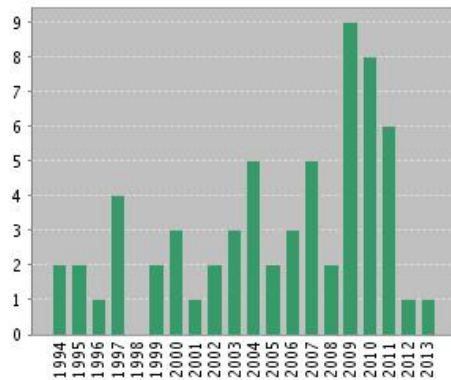
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Citation Report Author=(Campbell, RC)

Timespan=All years. Databases=SCI-EXPANDED, A&HCI, SSCI, CPCI-SSH, CPCIS.

This report reflects citations to source items indexed within Web of Science. Perform a Cited Reference Search to include citations to items not indexed within Web of Science.

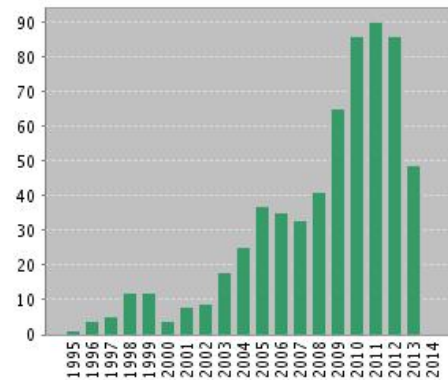
Published Items in Each Year



The latest 20 years are displayed.

[View a graph with all years.](#)

Citations in Each Year



The latest 20 years are displayed.

[View a graph with all years.](#)

Results found: 68

Sum of the Times Cited [?]: 631

Sum of Times Cited without self-citations [?]: 621

Citing Articles [?]: 608

Citing Articles without self-citations [?]: 599

Average Citations per Item [?]: 9.28

h-index [?]: 13

Results: 68



Page 1

of 7

Go



Sort by: Times Cited -- highest to lowest



Use the checkboxes to remove individual items from this Citation Report or restrict to items published between 1989 and 2014 [Go](#)



1.

Title: [Standard versus high-dose CVVHDF for ICU-related acute renal failure](#)

Author(s): Tolwani, Ashita J.; Campbell, Ruth C.; Stofan, Brenda S.; et al.

Conference: 12th International Conference on Continuous Renal Replacement Therapies Location: San Diego, CA Date: MAR 07-10, 2007

Source: JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY Volume: 19 Issue: 6 Pages: 1233-1238 DOI: 10.1681/ASN.2007111173 Published: JUN 2008



2.

Title: [Racial differences in the prevalence of chronic kidney disease among participants in the Reasons for Geographic and Racial Differences in Stroke \(REGARDS\) cohort study](#)

2010	2011	2012	2013	2014	Total	Average Citations per Year
86	90	86	49	0	631	26.29
21	19	16	3	0	92	15.33

Article / Author Metrics



WEB OF KNOWLEDGESM

AMERICAN MATHEMATICAL SOCIETY
MathSciNet
Mathematical Reviews

ISSN 2167-5163

ResearchGate



Scopus

The largest abstract and citation
database of peer-reviewed literature.

 MENDELEY

Tools for metrics

Free

Publish or Perish <http://www.harzing.com/pop.htm>

Free software that retrieves and analyzes academic citations. Uses Google Scholar and Microsoft Academic Search

Impact Story <http://impactstory.org/>

ImpactStory is an open-source, web-based tool that helps researchers explore and share the diverse impacts of all their research products—from traditional ones like journal articles, to emerging products like blog posts, datasets, and software.

PLOS Article-Level Metrics (ALMs) <http://article-level-metrics.plos.org/>

ALMs provide a suite of established metrics that measure the overall performance and reach of published research articles.

Fee based (reasonable)

Altmetric <http://www.altmetric.com/>

Plum Analytics <http://www.plumanalytics.com/index.html>

Citations across the Disciplines

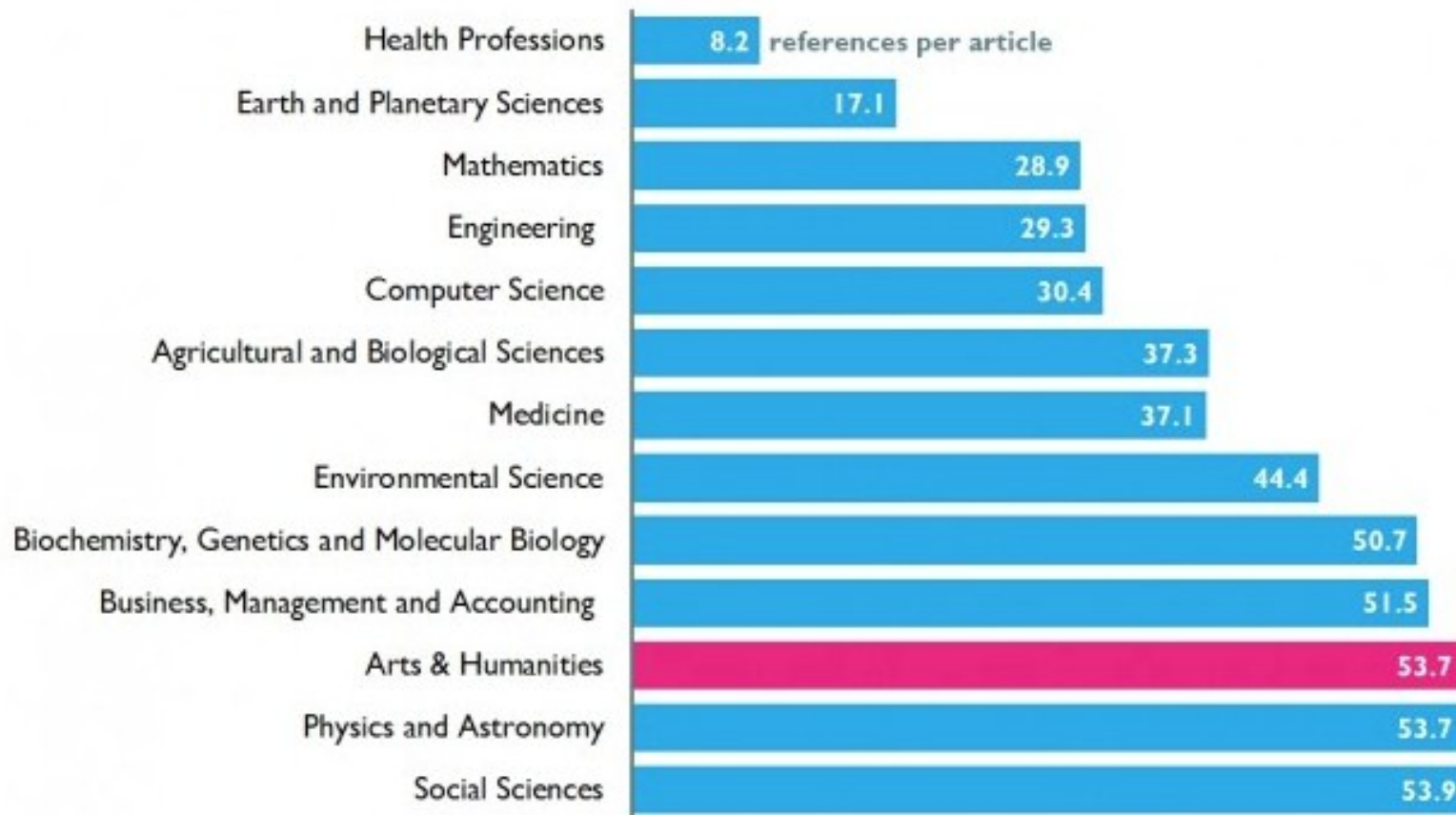
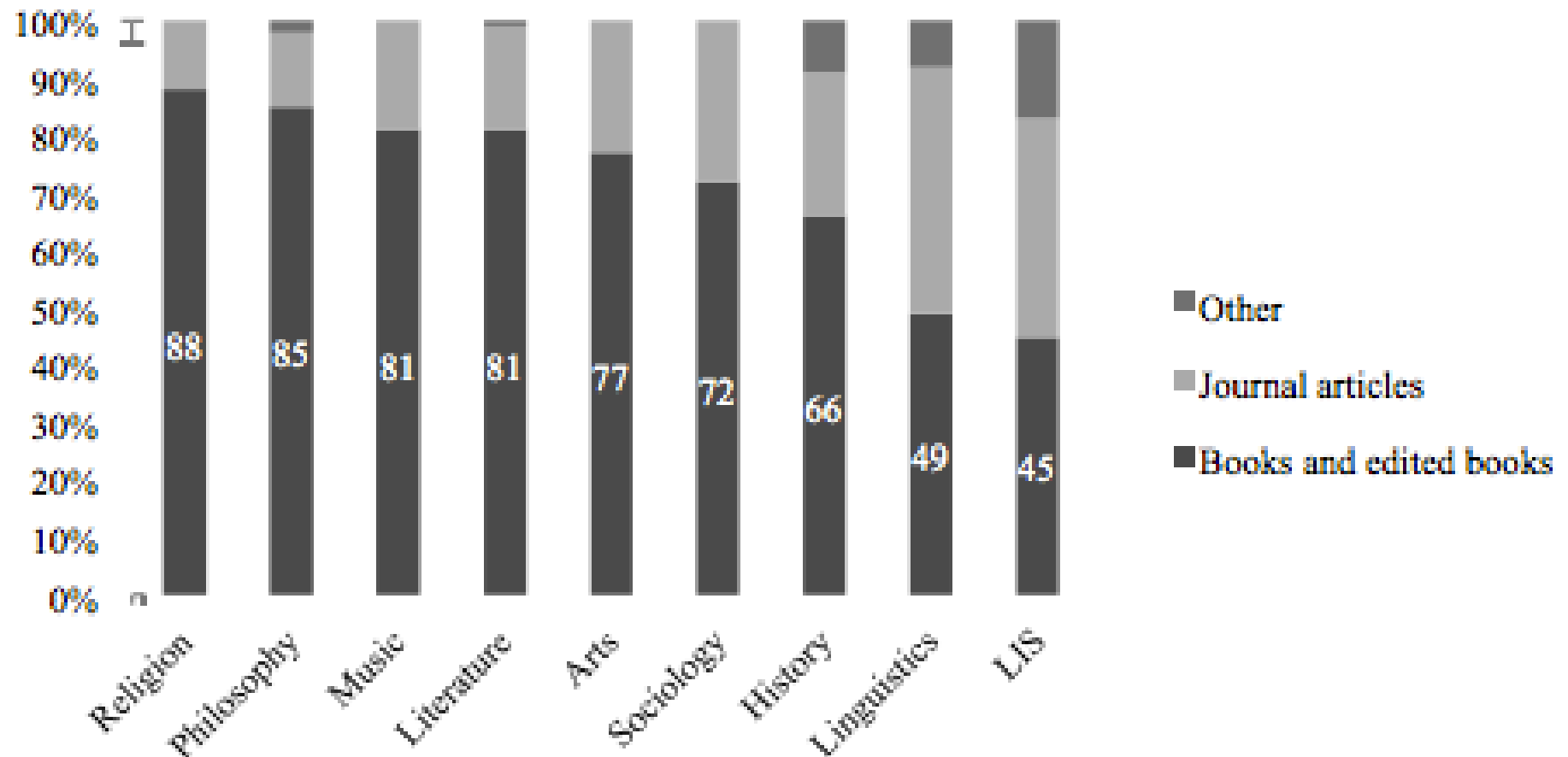


Figure 1: The average number of references per article per discipline

Author's note regarding data: "This study was conducted using a small sample of 63 journals. In order to test the findings in this study, a much larger scale is needed and therefore it is necessary to analyze more journals per discipline. In a larger study, it will be important to include at least 20 journals per discipline in order to have a sufficient amount of journals and citations to analyze."

<http://www.researchtrends.com/issue-32-march-2013/citation-characteristics-in-the-arts-humanities-2/>

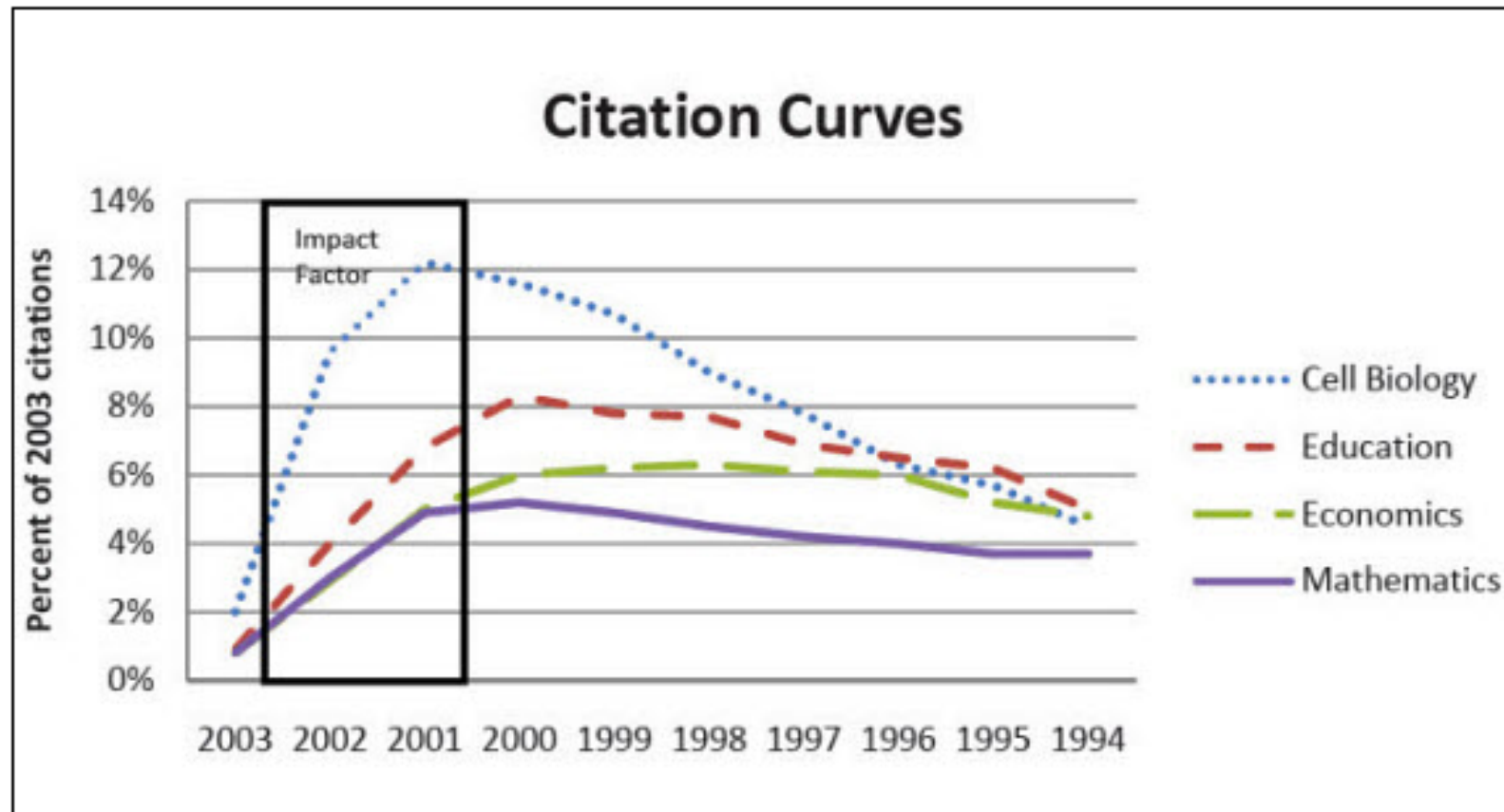
Citations across the Disciplines



Hammarfelt, B. (2012). Following the Footnotes: A Bibliometric Analysis of Citation Patterns in Literary Studies.

<http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-170504>

Citations across the Disciplines



The citation age distribution of published articles from 2003 in different disciplines. When calculating the Impact Factor of journals, the citations taken into account are from 2001-2002. The citation material is from the Thomson Reuters Web of Science database.

Image source: Joint Committee on Quantitative Assessment of Research Citation Statistics.

<http://www.mathunion.org/fileadmin/IMU/Report/CitationStatistics.pdf> 8.4.2009.

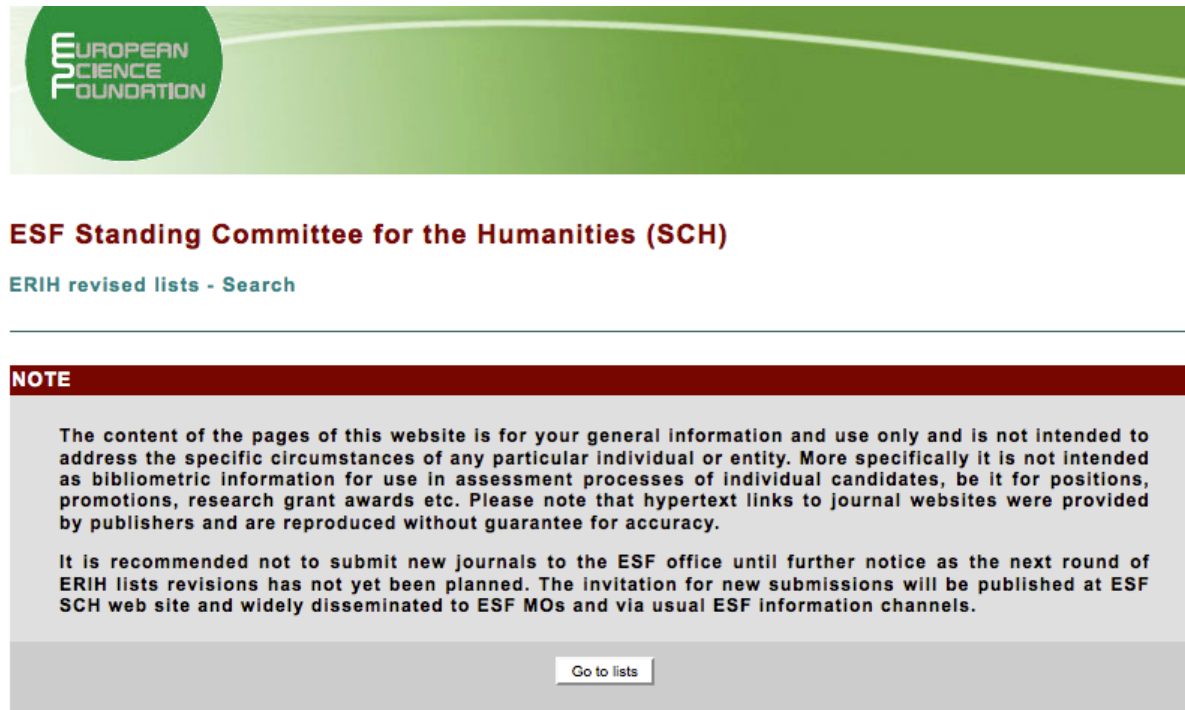
<https://wiki oulu.fi/display/tor/1.3.1.7+Evaluation+of+disciplines+and+research+fields>

Metrics in Social Sciences & Humanities

- **Scopus** includes social sciences and humanities
- **JCR Social Sciences Edition** has more than 2,600 journals in social sciences
- **Web of Knowledge**
 - **Social Sciences Citation Index** (1898-present)
 - **Arts & Humanities Index** (1975-present)
 - *citations in books are not included in these datasets*
 - **Book Citation Index** (40,000 titles)
- **GoogleScholar – My Citations**
- **ERIH**

Metrics in Social Sciences & Humanities

- **European Reference Index for the Humanities (ERIH)** produced by the European Science Foundation



The screenshot displays the European Science Foundation (ESF) logo in a green circle on the left. To its right, the text "ESF Standing Committee for the Humanities (SCH)" is shown in red. Below this, a link "ERIH revised lists - Search" is visible in blue. A red horizontal bar separates this from a "NOTE" section. The note contains two paragraphs of text regarding the website's purpose and submission guidelines. At the bottom of the note section, there is a button labeled "Go to lists".

ESF Standing Committee for the Humanities (SCH)

[ERIH revised lists - Search](#)

NOTE

The content of the pages of this website is for your general information and use only and is not intended to address the specific circumstances of any particular individual or entity. More specifically it is not intended as bibliometric information for use in assessment processes of individual candidates, be it for positions, promotions, research grant awards etc. Please note that hypertext links to journal websites were provided by publishers and are reproduced without guarantee for accuracy.

It is recommended not to submit new journals to the ESF office until further notice as the next round of ERIH lists revisions has not yet been planned. The invitation for new submissions will be published at ESF SCH web site and widely disseminated to ESF MOs and via usual ESF information channels.

[Go to lists](#)

<https://www2.esf.org/asp/ERIH/Foreword/index.asp>

Metrics in Social Sciences & Humanities

- Some of StFX's electronic resources include cited references:
 - **America: History and Life**
 - **Historical Abstracts**
 - **PsycINFO**
 - **PsycARTICLES**
 - **SPORTdiscus**
 - **Sociological Abstracts**
 - **Business Source Complete**

Metrics in Social Sciences & Humanities

- generally understood as difficult to quantify with a number
- recommendation is typically to use any metrics only in combination with other assessment tools
- interesting thesis about the future of citations and metrics in humanities*

*Hammarfelt, B. (2012). Following the Footnotes: A Bibliometric Analysis of Citation Patterns in Literary Studies.

<http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-170504>



Universality of Metrics?

- “recent burst of interest in field normalization of impact metrics”
- explosion of new metrics – with unsubstantiated claims of universality (despite discipline bias)
- quantitative analysis of universality of nine existing metrics finds that none provides accurate universal measure

Kaur, J., Radicchi, F., & Menczer, F. (September 2013). Universality of scholarly impact metrics. *Journal of Informetrics*. [preprint]
<http://arxiv.org/abs/1305.6339>



<http://stfx.libguides.com/openaccess>

Angus L. Macdonald Library



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Open Access

This guide prepared by StFX librarians Lise Brin, Rita Campbell, Kathleen MacKenzie and Glenna Quinn

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What is Open Access?



OCTOBER 21-27, 2013

Open Access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. What makes it possible is the internet and the consent of the author or copyright-holder.

-- from [A Very Brief Introduction to Open Access](#) by Peter Suber

Open Access Factsheets

- [OA Factsheet 1. What is Open Access?](#)
- [OA Factsheet 2. Types of Open Access - Gold OA & Green OA](#)
- [OA Factsheet 3: World of OA Publishing](#)
- [OA Factsheet 4: OA Mandates](#)
- [OA Factsheet 5: OA in Canada](#)

Recommended Websites

2013 Brown Bag Lunches - Faculty Development Committee

2013 Open Access Sessions

Centre for Teaching & Learning, Library

[Open Access Publishing: Navigating the wild west of OA publishing, the good, the bad & the ugly.](#) Tuesday, October 8, 2013: 12:15-1:15

[Metrics: article metrics, journal metrics, altmetrics.](#) Wednesday, October 16: 12:15 - 1:15

[Open Data.](#) Tuesday, Oct. 22: 12:15-1:15

[Funder mandates: complying with open access & open data research funder mandates.](#) Wednesday, October 30, 12:15-1:15



Slides from 2012 presentation: [Open Access: How does it impact teaching and research at StFX](#)

Sources of Open Access Content

Open Access Journals

[DOAJ \(Directory of Open Access Journals\)](#)

Thank you!

Discussion?

openaccessweek.org